



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,843	12/27/2001	Craig Dillon	13553-06830	9057

7590 04/08/2005
Glenn Patent Group
3475 Edison Way
Suite L
Menlo Park, CA 94025

EXAMINER

BLACK, LINH

ART UNIT	PAPER NUMBER
----------	--------------

2167

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,843

Applicant(s)

DILLON ET AL.

Examiner

LINH BLACK

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-31, 33-43, 46-56, 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikurak (USP 6606744), and further in view of Strubbe et al. (US 6795808).

1. As per claims 1 and 46-48, Mikurak teaches

a) a source database comprising structured data – col. 80; line 63 to col. 81, line 11.

b) a reference database having reference data – col. 15, lines 20-40; col. 63, lines 18-31; col. 101, lines 15-31. (In the specification, pages 2-3, Applicants disclose “source database” contains investment/financial transactions, and “reference database” comprises the Internet – page 4, line 20.)

c) a locator component configured to use the structured data to locate reference data in the reference database suitable for association with the source database - col. 180, line 50 to col. 181, line 16; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.

Mikurak teaches data mining involves the development of tools that analyze large databases to extract useful information from them such as customer purchasing patterns or purchasing habits, such purchasing habits can provide invaluable marketing

Art Unit: 2167

information (predict trends) – col. 80, line 63 to col. 81, line 62; fig. 52; col. 35, lines 20-26; Mikurak teaches data mining classifier, and the ability to construct class descriptions - col. 81, lines 44-46.

According to the Microsoft Computer Dictionary – Fourth Edition, **descriptor** is defined as “1. In information retrieval, a word, similar to an index entry in a book, that identifies a significant topic or element in a stored document or group of documents. It is used as a key in rapid search and retrieval of information. See also keyword (definition 1). 2. In programming, a piece of stored information used to describe something else, often in terms of structure, content, or some other property.” Thus, examiner interprets Applicants’ limitation: “an analyzer component configured to process the reference data into a set of descriptors” is equivalent to Mikurak’s teaching of data mining classifier with the ability to construct class descriptors - col. 80, line 63 to col. 81, line 62; especially col. 81, lines 44-46.

However, Mikurak does not explicitly disclose the augmented database. Strubbe et al. (US 6795808) teaches key word descriptors and search vector/class, classifiers – col. 18, lines 18-30; mood/personality classifier and predicting a probability – col. 22, lines 49- 60; augmenting a preference database – col. 8, lines 42-45. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Mikurak’s teaching with Strubbe’s teaching in order to allow searches to be conducted on a better data-organized database, the augmented database, thus, it provide quicker and better search results.

2. Mikurak anticipated claims 2 and 49 by the following:

wherein the source database contains financial transaction data – col. 96, lines 29-54;
col. 112, lines 31-65.

3. Mikurak anticipated claim 3 by the following:

wherein the source database contains telephone call detail records – col. 2, line 53 to
col. 3, line 3; col. 39, line 33 to col. 40, line 16; col. 58, lines 30-40.

wherein the reference database contains business indices and telephone directories
augmented by public information on merchants and service providers – col. 78, lines 29-
44; col. 181, line 51 to col. 182, line 10.

4. Mikurak anticipated claim 4 by the following:

wherein the source database contains investment transactions – col. 78, lines 29-44;
col. 80, line 63 to col. 81, line 11; col. 209, lines 1-42.

the reference database contains public information regarding companies, mutual funds
and/or other investment interests - col. 15, lines 20-40; col. 63, lines 18-31; col. 101,
lines 15-31; col. 159, lines 34-64.

5. Mikurak anticipated claim 5 by the following:

wherein the source database contains insurance transactions; wherein the reference
database contains information regarding insurance products, claims and/or insurance

evaluations – col. 101, line 32 to col. 102, line 27; col. 239, lines 29-38.

6. Mikurak anticipated claim 6 by the following:

wherein the source database contains product inventories - col. 80, line 63 to col. 81, line 11.

wherein the reference database contains information describing products - col. 15, lines 20-40; col. 63, lines 18-31; col. 101, lines 15-31.

7. Mikurak anticipated claim 7 by the following:

wherein the source database contains Internet browser view transactions – col. 100, line 51 to col. 101, line 31.

wherein the reference database contains the Internet pages of the browser view transactions – col. 108, line 3-49.

1. Mikurak anticipated claim 8 by the following:

wherein the source database contains retail transactions at an individual product level – col. 110, lines 16-42.

wherein the reference database contains product information from catalogs – fig. 101; col. 95, lines 20-60.

2. Mikurak anticipated claims 9 and 50 by the following:

Art Unit: 2167

wherein the structured data comprises at least a name or identifier corresponding to a merchant, product and/or service – col. 159, lines 20-33; col. 181 to col. 182, line 10.

3. Mikurak anticipated claims 10 and 51 by the following:

wherein the reference database contains data in an unstructured format – col. 112, line 43 to col. 113, line 43.

4. Mikurak anticipated claims 11 and 52 by the following:

wherein the reference database comprises a public database such as the Internet – col. 63, line 18-31; col. 79, lines 29-45; col. 101, lines 9-31.

5. Mikurak anticipated claims 12 and 53 by the following:

wherein the locator component locates electronic pages on the Internet related to merchant, product and/or service identified of the structured data in the source database – col. 78, lines 29-44; col. 95, lines 33-60; col. 108, lines 3-62.

6. Mikurak anticipated claims 13 and 54 by the following:

wherein the locator component includes a spider module that searches for embedded links, keywords and/or references in the text found at the located electronic pages – col. 259, lines 19-27; col. 187, line 60 to col. 188, line 18.

7. Mikurak anticipated claims 14 and 55 by the following:

Art Unit: 2167

wherein the locator component retrieves the natural language text from the located electronic pages – col. 158, line 62 to col. 159, line 52; col. 95, lines 20-60.

8. Mikurak anticipated claims 15 and 56 by the following:

wherein the processing of reference data in the reference database is accomplished by reducing the natural language text to a set of weighted keywords – col. 96, lines 29-54; col. 99, line 1-60; col. 181, line 51 to col. 182, line 10.

9. Mikurak anticipated claims 17 and 58 by the following:

wherein the predictive modeling module uses one or more of the following methodologies: model-based regression, non-parametric regression (e.g., neural networks), Bayesian inference, hidden Markov models, fuzzy logic models, evolutionary models, or decision trees - fig. 52; col. 81, lines 44-55; col. 140, line 60 to col. 141, line 15.

10. Mikurak anticipated claims 18 and 59 by the following:

wherein the source database comprises account based transactional records and the analyzer component aggregates the data from the source database and its associated reference data by reference to an account field – fig. 26; col. 47, lines 54-63; col. 103, lines 10-40.

11. Mikurak anticipated claims 19 and 60 by the following:

Art Unit: 2167

wherein the association of unstructured data from the reference database is delivered through a predictive statistical model built from known historic outcomes associated with records within the source database – fig. 52; col. 81, lines 44-55; col. 140, line 60 to col. 141, line 15; col. 158, line 52-61.

12. As per claim 20, Mikurak teaches

- a) a source database comprising a plurality of transaction data records with each transaction data record having at least one field identifying a merchant, product and/or service - col. 80, line 63 to col. 81, line 11.
- b) a merchant identifier database comprising a plurality of reference addresses and value description identifiers for merchants, products and/or services – col. 96, lines 29-67; col. 224, lines 48-67.
- c) a reference database - col. 15, lines 20-40; col. 63, lines 18-31; col. 101, lines 15-31.
- d) an address locating module configured to search the reference database to locate references for merchants, products and/or services identified in the source database - col. 180, line 50 to col. 181, line 16; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.
- e) an account description database - col. 44, lines 32-67; col. 254, lines 47-62; col. 299, lines 40-61.
- g) a merchant analysis builder module configured to condense the references provided by the address locating module into a value description and store the value description

in the merchant identifier database – col. 101, lines 9-31; col. 224, lines 11- 46; col. 180, line 50 to col. 181, line 16.

Mikurak teaches data mining involves the development of tools that analyze large databases to extract useful information from them such as customer purchasing patterns or purchasing habits, such purchasing habits can provide invaluable marketing information (predict trends) – col. 80, line 63 to col. 81, line 62; fig. 52; col. 35, lines 20-26; Mikurak teaches data mining classifier, and the ability to construct class descriptions - col. 81, lines 44-46.

However, Mikurak does not explicitly disclose a transaction augmentation module, configured to attach the value description of a particular merchant, product and/or service to the transaction data records and store the resulting combined record in the account description database. Strubbe et al. (US 6795808) teaches key word descriptors and search vector/class, classifiers – col. 18, lines 18-30; mood/personality classifier and predicting a probability – col. 22, lines 49- 60; augmenting a preference database data – the abstract; col. 8, lines 42-45.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Mikurak's teaching with Strubbe's teaching in order to allow searches to be conducted on a better data-organized database, the augmented database, thus, it provide quicker and better search results.

f) a transaction augmentation module, configured to attach the value description of a particular merchant, product and/or service to the transaction data records and store the

resulting combined record in the account description database – col. 89, lines 9-65; col. 99, lines 37-60; col. 292, lines 33-55; col. 223, lines 31-67.

13. Mikurak anticipated claim 21 by the following:

an account descriptor builder module configured to generate descriptive account records from the merchant identifier database and the source database – col. 47, lines 54-63; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.

14. Mikurak anticipated claim 22 by the following:

a lexicographic database configured to index value description identifiers to keywords - col. 96, lines 29-54; col. 99, line 1-60; col. 181, line 51 to col. 182, line 10.

15. Mikurak anticipated claim 23 by the following:

wherein the reference database comprises the Internet - col. 15, lines 20-40; col. 63, lines 18-31; col. 101, lines 15-31.

16. Mikurak anticipated claim 24 by the following:

a predictive modeling module configured to predict future behavior of accounts, merchants, or other entities, using data from the account description database - fig. 52; col. 81, lines 44-55; col. 140, line 60 to col. 141, line 15.

17. Mikurak anticipated claim 25 by the following:

Art Unit: 2167

a data mining search engine configured to conduct keyword searches of the account description database to identify accounts, merchants, or products – col. 79, line 45 to col. 80, line 66; col. 81, lines 5-62.

18. As per claims 26, Mikurak teaches:

a) retrieving at least one data record recording an event from the source database – col. 44, lines 53-62; col. 96, lines 51-63; col. 112, lines 47-65.

b) identifying a field in the data record that specifies an entity – col. 48, lines 1-10; col. 113, lines 14-67; col. 225, lines 15-46.

c) locating reference data from the reference database that describes the entity specified by the entity field - col. 180, line 50 to col. 181, line 16; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.

d) processing the reference data to form a set of keyword descriptors describing the entity - col. 80, line 63 to col. 81, line 62; col. 98, line 54 to col. 99, line 26.

f) building an account descriptor database that includes at least one data record that correlates the at least one event with the description of the entity from the augmented data record – col. 44, lines 32-67; col. 254, lines 47-62; col. 299, lines 40-61.

g) searching the account descriptor database for selected data records that meet a desired criteria – col. 44, lines 49-62; col. 79, lines 54-63; col. 129, line 50 to col. 130, line 16.

Mikurak teaches data mining involves the development of tools that analyze large databases to extract useful information from them such as customer purchasing

patterns or purchasing habits, such purchasing habits can provide invaluable marketing information (predict trends) – col. 80, line 63 to col. 81, line 62; fig. 52; col. 35, lines 20-26; Mikurak teaches data mining classifier, and the ability to construct class descriptions - col. 81, lines 44-46.

According to the Microsoft Computer Dictionary – Fourth Edition, **descriptor** is defined as “1. In information retrieval, a word, similar to an index entry in a book, that identifies a significant topic or element in a stored document or group of documents. It is used as a key in rapid search and retrieval of information. See also keyword (definition 1). 2. In programming, a piece of stored information used to describe something else, often in terms of structure, content, or some other property.” Thus, examiner interprets Applicants’ limitation: “an analyzer component configured to process the reference data into a set of descriptors” is equivalent to Mikurak’s teaching of data mining classifier with the ability to construct class descriptors - col. 80, line 63 to col. 81, line 62; especially col. 81, lines 44-46. Mikurak teaches comparison of features based on keywords, and ranked according to the number of matches – col. 81, lines 11-61; col. 99, lines 5-25.

However, Mikurak does not explicitly disclose the augmented database. Strubbe et al. (US 6795808) teaches key word descriptors and search vector/class, classifiers – col. 18, lines 18-30; mood/personality classifier and predicting a probability – col. 22, lines 49- 60; augmenting a preference database – col. 8, lines 42-45; data classification and weighted keywords – col. 13, line 45 to col. 14, line 51. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine

19. Mikurak anticipated claim 27 by the following:

wherein the locating reference data includes locating data in an unstructured database - col. 112, line 43 to col. 113, line 43.

20. Mikurak anticipated claim 28 by the following:

wherein the reference database includes at least a portion of the Internet – col. 97, line 25 to col. 98, line 11; col. 135, lines 3-18.

21. Mikurak anticipated claim 29 by the following:

wherein the locating reference data includes locating electronic pages using the entity specified in the at least one data record - col. 180, line 50 to col. 181, line 16; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.

22. Mikurak anticipated claim 30 by the following:

wherein locating reference data further spidering for additional electronic pages cited within the located electronic pages - col. 259, lines 19-27; col. 187, line 60 to col. 188, line 18.

23. Mikurak anticipated claim 31 by the following:

Art Unit: 2167

wherein locating reference data includes reducing natural language text to keyword descriptors - col. 80, line 63 to col. 81, line 62; col. 98, line 54 to col. 99, line 26.

24. Mikurak anticipated claim 33 by the following:

storing the augmented data record in a merchant database - col. 101, lines 9-31; col. 224, lines 11- 46; col. 180, line 50 to col. 181, line 16.

25. As per claims 34 and 40, Mikurak teaches reading a data record from the source database – col. 171, lines 1-20; col. 239, lines 15-29; col. 80, line 63 to col. 81, line 11; searching the reference database for information describing the data record - col. 44, lines 49-62; col. 79, lines 54-63; col. 129, line 50 to col. 130, line 16.

Mikurak teaches data mining involves the development of tools that analyze large databases to extract useful information from them such as customer purchasing patterns or purchasing habits, such purchasing habits can provide invaluable marketing information (predict trends) – col. 80, line 63 to col. 81, line 62; fig. 52; col. 35, lines 20-26; Mikurak teaches data mining classifier, and the ability to construct class descriptions - col. 81, lines 44-46.

According to the Microsoft Computer Dictionary – Fourth Edition, **descriptor** is defined as “1. In information retrieval, a word, similar to an index entry in a book, that identifies a significant topic or element in a stored document or group of documents. It is used as a key in rapid search and retrieval of information. See also keyword (definition 1). 2. In programming, a piece of stored information used to describe

something else, often in terms of structure, content, or some other property.” Thus, examiner interprets Applicants’ limitation: “an analyzer component configured to process the reference data into a set of descriptors” is equivalent to Mikurak’s teaching of data mining classifier with the ability to construct class descriptors - col. 80, line 63 to col. 81, line 62; especially col. 81, lines 44-46. In the specification, page 5, lines 27-28, Applicants teach “condensing the information comprises reducing the natural language text to at least one weighted keyword.” Mikurak teaches comparison of features based on keywords, and ranked according to the number of matches – col. 81, lines 11-61; col. 99, lines 5-25.

However, Mikurak does not explicitly disclose the augmented database. Strubbe et al. (US 6795808) teaches key word descriptors and search vector/class, classifiers – col. 18, lines 18-30; mood/personality classifier and predicting a probability – col. 22, lines 49- 60; augmenting a preference database – col. 8, lines 42-45; data classification and weighted keywords – col. 13, line 45 to col. 14, line 51. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Mikurak’s teaching with Strubbe’s teaching in order to allow searches to be conducted on a better data-organized database, the augmented database, thus, it provide quicker and better search results.

26. Mikurak anticipated claims 35 and 41 by the following:

Art Unit: 2167

wherein the reference database comprises the Internet - col. 15, lines 20-40; col. 63, lines 18-31; col. 101, lines 15-31.

27. Mikurak anticipated claim 36 and 42 by the following:

wherein the data record contains at least a merchant name or identifier - col. 159, lines 20-33; col. 181 to col. 182, line 10.

28. Mikurak anticipated claims 37 and 43 by the following:

wherein searching the reference database further includes locating electronic pages related to the merchant identified in the data record - col. 180, line 50 to col. 181, line 16; col. 187, line 60 to col. 188, line 42; col. 259, lines 10-51.

29. Mikurak anticipated claim 38 by the following:

wherein searching the reference database further includes retrieving the natural language text from the located electronic pages - col. 158, line 62 to col. 159, line 52; col. 95, lines 20-60.

30. Mikurak anticipated claim 39 by the following:

wherein condensing the information comprises reducing the natural language text to at least one weighted keyword - col. 96, lines 29-54; col. 99, line 1-60; col. 181, line 51 to col. 182, line 10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

31. Claims 16, 32, and 57 rejected under 35 U.S.C. 103(a) as being unpatentable over Mikurak (USP 6606744), and further in view of Everling et al. (USPAP 2001/0016833).

32. As per claims 16, 32, and 57, Mikurak et al. do not explicitly suggest zip code and/or standard industry code. However, Everling et al. teach merchant transaction data mining method – the title. Everling et al. teach zip code and/or standard industry code – paragraphs 0019-0021. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Mikurak's teaching with Everling et al.'s teaching in order to study/analyze/validate/use the information provides by zip code and/or SIC to improve the network-based supply chain environment such as better source-specific regulations or market study of specific regions, or improvement of shopping processes.

Response to Arguments

Applicant's arguments with respect to claims 1-60 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH BLACK whose telephone number is 571-272-4106. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh Black

LINH BLACK
Examiner
Art Unit 2167

April 1, 2005

John J. Wessum
Primary Examiner